

Water-Womb-Land Cosmologic: Protocols for Traditional Ecological Knowledge

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Abstract

As the granddaughter of Kickapoo, Comanche, and Macehual peoples who migrated throughout the present-day United States and Mexico, I am most concerned with what happens as our traditional ecological knowledge changes when it is taken out of the spaces and relationships over time that we have developed with our lands, our waters, our medicines. I raise questions regarding cultural appropriation and the consequences that emerge when Indigenous knowledge becomes generalizable knowledge. Some of the key questions explored in this article include the following: What relationships surround the knowledge of the Original Peoples? Why is it that when traditional knowledge is taken out of its original relations newcomers learn the plant knowledge and then ask, "What money can I make from this knowledge?" How can we factor in the realities of colonization that result in the original peoples of a place becoming disconnected from traditional knowledge? To situate this discussion, I explore water knowledge from my perspective as a traditional birth attendant and traditional herbalist and an Indigenous scholar who teaches courses on Indigenous medicine. I discuss how the one signifier of water can have multiple existences, meanings, and forms. In contrast to deep knowledge that has been carried across time by Indigenous peoples, I call into question knowledge that is based on profit rather than on seeking a deep relationship with the environment that allows balanced relationships with the natural world—and the knowledge that those relationships

create—to continue. Discussion also focuses on some key values and recommended protocols for traditional knowledge exchange, including (a) Acknowledgement, (b) Accountability, (c) Accessibility and Affordability, (d) Relatedness, and (e) Reciprocity. Key Words: Traditional ecological knowledge—Indigenous knowledge—Indigenous medicine.

Introduction

Instructions beneath these words: Water and winds carry our thoughts. The earth grounds our being; we plant words and our prayers. Values are living beings, inspired by the life guardians, the life keepers. I think into being the stories of traditional ecological knowledge (TEK), which is traditional Indigenous knowledge. I express concern about what happens when traditional Indigenous or traditional ecological knowledge becomes generalizable knowledge and inserted into systems of commodification without proper respect, acknowledgement, and other guiding values that can serve as protocols for TEK. Original instructions came before these words and hold them up within multidimensional and multidirectional fields of knowledge. They emanate from the Unseen World, what is also called "the Sacred." These systems of sacred ecologies include spiritual/ceremonial teachings to ensure relationships with the natural world that we needed—and need—as human beings to survive.

Land Acknowledgement

Words across time: I am a guest on Tohono O'odham territories. I begin by also honoring my peoples who traveled across many kinds of water and lands. My Kickapoo and Comanche relatives traversed many terrains, as people who moved across different kinds of waters and bio-cultural systems, adjusting to different ecologies and making it ours and taking our original teachings from, and then, to those

places. My Macehual/Nahua relatives intermarried with them as they lived in Old Mexico, as did my ancestors who are the original peoples of what is today known as Texas. My natural relatives are the Mountains of the Big Bend, Mother Lake of the Great Lakes, the Vermillion River, the Trinity River, Nacimiento, Thunder, Ant, and Maguey. Land acknowledgement takes various forms, including ceremony. In water prayers from Tohono O'odham, Havasupai-Hopi, and Navajo elders and ceremonial keepers on the dry Santa Cruz River in Tucson, Arizona, water from many directions seeps into your cracked bed. And water flowed that year.

Genealogy of My Knowledge

Water-prayer words, daily words: Water is the first medicine ... the water that is above, the water that is horizontal, sweet waters, running waters, the first waters that we emerge from, the water in the dew before dawn, the water from fire, the water from the different rivers that sustained me and my peoples, the watery pregnant womb, the first water that comes before life. The waters in the Maguey, which as a Nahua or Macehual person is important medicine to me, has been my guardian and my relation with the teachings of the moon. Star water, moon water. Water songs with medicine animals show us the flux of water knowledge. There is water in those songs. Water beingness arises to meet its Maker in a Buffalo song, a Bear sing, or a Frog teaching. Water has no edges. It fills the in between and is in the tiniest spaces of inter-existence. Knowledge and thought emerge from water. It takes form in our actions. I think of one of my Macehual elders, Don Aurelio Cazarez, who is a rainmaker, because he survived the test of lightning as a boy. Worlds are contained in water. What are we thinking into the body of water that is our life? The ultimate authority over the knowledge of water is the water itself.

Stories stir the water: water stories, origin stories of how we are water people, how we emerged from the first waters. My great uncles have stories of "los magueyes," how they slept under them for protection, how they relied on them for liquids as they hid to escape pursuers. The water is waiting for a story to be told; the plants are waiting for a story and the words that plants created.

Originating Formations: Water Carriers

The Cosmos in a Gourd of Water: Water lives in relationship with the thunderers, the four winds, the ants, the frog peoples, and the lightning. Shell carries truth and water's breath. Lightning, land, and water can emerge from each other. In Nahua cosmologic, the Maguey contains the watery life of the moon in her womb and precious liquids that can improve fertility, treat diabetes, bring visions and protection. This Maguey image speaks to Mayahuel (Fig. 1), the envoy of the

Maguey, who sits with engorged breasts of fertility, on top of a turtle and a snake. Some people are charged with carrying water, others pour water, and others gather. The impulse in all of life in the cosmos has organized to create a gourd of water.

Water Ways

Thinking into being the water... sweet water that my grandmother gathered from the rains to use for washing our hair, our family prayers and healing ways ... iztayatl, the white water sage who does the work of Salt Woman, the plants of ceremony which could not be eradicated by conquistadores' frenzied bonfires ... the plants that I grew up with in Texas as we would go into the Border, some of the same plants that I live with here now in Tucson ... the river by where I grew up near a Comanche camp site, where we were the last guardians of a piece of the Trinity River until we were forced off our bluff by the city of Fort Worth, a place that was important to my Comanche-Nahua grandfather and great-grandfather, who irrigated our peach trees and rose bushes from the Rivers without any sort of hose, there 13 umbilical cords of our family hang from the spiritual landscape. There are sacred waters of emergence whose stories cannot be written down. To emerge from a spring, or a particular water place, a mountain, an opening in the earth, for us, we literally are its descendants as we emerged from its womb. The Indigenous concept of personhood within the natural world is why New Zealand officially recognized the Whanganui River as a living being and legal person with legal personhood in 2017, something the Maori have always maintained.

Seeing into the birth water ... a woman's medicine is primarily through her food and water sources as she is a pregnant body ... the water that is one quart of liquid in the amniotic fluid toward the latter part of pregnancy, how a great amount of the weight gain of a mother of a pregnant female body is water, the water in our blood, in our semen, and our tears, the water in the breast milk and the liquids that we now find to have PCBs and heavy metals in many mothers' milk. Mohawk midwife Katsi Cook (2003) was the first to create research around the contaminants in Indigenous women's breast milk that showed us, as she has often stated, that "women are the first environment."

Trees of Life Hold Up These Words: Waters In-Formation

I turn my direction to the encoded knowledge in Indigenous symbols and the tree of life and the place of thorns. Captured in the Nahua painted tradition, we see different trees of life that represent the trees of knowledge that hold up their ancient world. The mesquite and cactus are the trees of life for the direction of the south, a Nahua

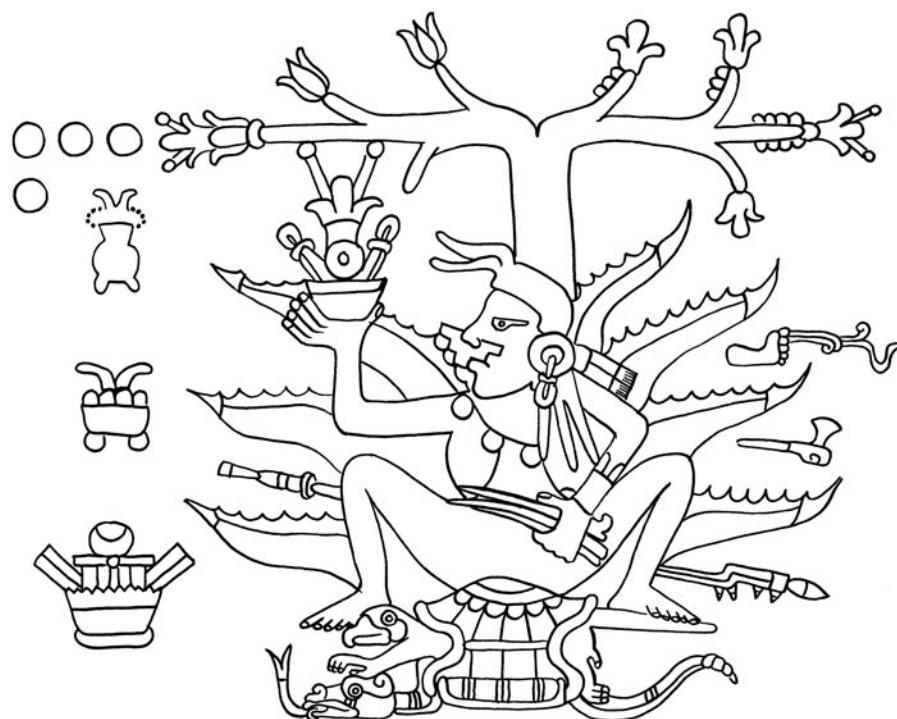


Fig. 1. Rendering of an image from Laud Codex 9 of Meyahuel, the female power of the Maguey, sitting upon a turtle and a snake in a birthing squat (drawing by Dianna Taylor). Her powers are associated with nourishing waters, and liquids that allow communication with spiritual dimensions. Rain water gathers in her leaves, which form a natural dipper. Image used with permission.

cardinal point of Medicine, the place of pricking things and determination. I think about the expression “que tienes el nopal en la frente,” meaning you are so Indian or so Mexican you have a cactus on your forehead. Migrants die in the desert among the Place of the Thorns, thorny grandfathers. And “the Mexican” carries the identifiable marker of the Indian reflected in US immigration policy, for so very often the immigration policies are directed toward people who “look Mexican” (read Indian), with a cactus on their forehead.

Embedded within our relationships to the land are the processes of colonization where some people become disconnected from the great stories of their plant mothers and fathers and the medicine of the cactus, while others are able to keep it within our families, within our villages, our communities, our communal societies, and our ecological healing systems. These knowledges carried from Deep Time were not meant for human fracking of Indigenous knowledges; you cannot extract the power of Indigenous cultural praxis from its source and experience the spiritual energy that pulsates within those

peoples' ways. The 2019 global assessment by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES, 2019) notes that Indigenous knowledge systems may hold the answer to “ominous” pending ecological changes in the environment. However, the depth of fields within these systems are found among *the living peoples and their structures* of Indigenous knowledge.

Thinking From My Responsibilities Within an Ecological Knowledge System

I am most concerned with what happens as our TEK changes when it is taken out of the spaces and relationships over time that we have developed with our lands, our waters, our medicines. As a framework for discussing TEK, I use Mason Durie's theory on Maori synergistic ecologies. As Durie writes, “a spiral of ecological synergy” is built on wider ecological relationships and “environmental endurance” in which people derive their personal identity in a “Human-land” identity in a principle of connectedness (Durie, 2010, pp. 242, 247). A dimension of TEK is contained within and between a “tangible and

intangible fusion" (Durie, 2010, p. 245) of experience in which interaction and mutuality converge to create a centrifugal spiral toward the universe. The spiral circles through a person to a group, and from peoples and the natural world onward to the earth and sky. This spiral (Durie, 2010) is "built on extended networks, interacting relationships, and outward flow of energy that shapes:

- a grounded human identity,
- the relationships between animate and inanimate objects,
- the dimension of time" (p. 247).

The land, mountains, the Maguey, the stars, and the rivers of my peoples are my kin and elders: Ecological synergy is based on connectedness and cohesion among Indigenous peoples and elements and objects in which there may be no demarcation between what is tangible or intangible. In looking at the concept of ecological synergy, I am particularly interested in how the relationships over time with our environment are very specific and how we adapt to the new and rapid changes occurring in these times. I say this coming from a place of deep knowledge of the practices that we grew up with in our family, in our protected societies. This is traditional and Indigenous knowledge that was maintained both by my pre-Columbian families and Indigenous cultures of the North. I have permission to talk about the Nahua side of my knowing and my own Indigenous knowledge within my family, and it is from that place that I want to offer some honest remarks.

My particular concern is what relationships surround the knowledge(s) of the Original Peoples. This leads me to my recommendations for protocols around traditional ecological and Indigenous knowledge(s). When I see people charging for learning how to *pelar nopal* or skin cactus, I find it curious and of concern because we grew up doing it with our grandmothers and our aunts and mothers. The cactus grows on our lands and is a primary food source. For me, the action points to a different kind of relationship with our medicines and our foods. It points to disconnection from tradition and connection into a different system, a fee-for-service system. Why is it that when traditional knowledge becomes popular it is then offered based on a system of money instead of respect for relationships? Tradition, within the context of Indigenous peoples, is adaptive and dynamic, based on the needs of the people and their self-determination.

These new systems of knowledge do not necessarily operate within the internal system that allowed for an exchange of knowledge as well as perhaps economic benefit that sustains a community through trade and barter, communal sharing, reciprocity and redistribution of wealth within the community. It is taken into a profit system that may not have community control.

The Consequences of Our Actions Within the Natural Democracy

Why is it that when traditional knowledge is taken out of its original relations, newcomers learn the plant knowledge and then ask, What money can I make from this knowledge? What more can I get from having this knowledge? They do this instead of asking, What can I do for the plants? How can I sustain the plant nations and their rights in a natural community abiding with its own "natural democracy" (Cajete, 1994)? The question for me becomes how many people can the cholla buds sustain when they originally sustained a particular people (the Tohono O'odham) with respectful relationships and accords of reciprocity and responsibilities with them. Traditional knowledge in my lifeway is one of a giving economy of generosity and sharing, based on values that align with what I consider "the five R's" of reciprocity, respect, responsibility, relationship, regeneration—and redistribution, as Comanche elder LaDonna Harris teaches in the Native leadership program she founded (see Harris and Waisilewski, 2004; and Christensen's 2003 work on elder epistemology). Natural democracy asks us to consider when will the seeds and plants hear the songs they created? Our places are the Creators of our languages, which are the very placentas of Original peoples. When will the Life of those places hear the languages they created?

There is a sacred nature to natural knowledge. Onondaga Chief Oren Lyons says that man-made laws will never win over natural law and that the seeds hold our self-determination.¹ A key value expressed in shared/distinct or nuanced ways among many Indigenous peoples is a sense of relational responsibilities, or what Wilson calls relational accountability (2008). When traditional knowledge is placed into a different kind of system of commodification, when the knowledge keepers and elders of that tradition have little control over the ways in which this knowledge will be treated, is that still traditional knowledge? There are often guardians and knowledge keepers designated to protect, work with certain medicines, or speak for a community, including the plant nations. Plants have peoplehood. Plant chiefs and female governors guide two-legged knowledge keepers. When a White woman tries to tell me how to make tepache, one of the fermented drinks that I have grown up with, I have to stop and think: What is at play here that she doesn't understand about this relationship that I have with this knowledge and what, I gather to be,

¹Haudenosaunee Faithkeeper Chief Oren Lyons, address to delegates to the United Nations Organization, opening "The Year of the Indigenous Peoples" (1993) in the United Nations General Assembly Auditorium, United Nations Plaza, New York City, December 10, 1992.

is her newfound relationship with it? What right has she earned to be the authority, and not my aunties? How did she earn the right to speak for this knowledge? When I see people charging for a knowledge that we passed on through kinship and through relationships that we earned, I think what are the values that need to be instilled here, what are the gaps? Embedded within these relationships are systems of colonization that have created disconnection and displaced identities for some people, and for others, the ability to endure as we have maintained it at all costs within a different set of values and relationships. Frankly, it hurts us when we see a White person become the expert or hold more knowledge than we do about our own traditional ecologies because they had the privilege to buy the knowledge. However, knowledge and knowing are two different things. Deep knowing carries the implicate order of our ancestors, of values that are more than thought about but are a living imprint. They are living guardians of the past in our actions, moving like water over lava rock or the swipe of a sacred paw. Deep knowing has a spirit that contains the actions of the ones who came before us and established the original accords with a living universe.

You see, I live near the great mountains of Tucson. Yet these are not my mountains, so I do not go and freely collect from them, even though I am an experienced herbalist. My mountains are the Big Bend and other places where my ancestors walked, lived in caves as our homes, herded sheep, gathered medicine, and hid, when necessary. Because I am still making relations with these lands for more than 15 years, and out of respect for them, I do not just take. I gather little. However, I manage acres of family land in Texas and Arizona, each with dozens of the same plants that I know from my eco systems in Central and arid Texas.

While I do not have the answers, I think that in our conversations we need to consider the privileges that we have and how to factor in the realities of colonization that result in the Original Peoples of a place becoming disconnected from this knowledge. These questions also hold relevance for detribalized peoples seeking to decolonize or reclaim knowledge. I wonder who may commodify it or share it publicly without being accountable to Indigenous and ancestral structures of decision-making that ensured the protection and responsible acts surrounding evolved ways of knowing.

Acknowledgement, Accountability, Accessibility and Affordability, Relatedness, and Reciprocity?

I would like to offer some key values and recommendations for protocols surrounding traditional ecological and Indigenous knowledge:

- (1) Acknowledgement: Make visible where this knowledge originates from, beginning with acknowledging the original

peoples of that territory. Acknowledgement includes an analysis of how did we get here—recognizing the social political impacts on TEK, such as disconnection, colonization, structural determinants, as well as naming the lineage of the knowledge. Make visible the disappeared and make space to listen to the silences and how they came to be in the landscape. Land acknowledgment is more than acknowledging the lands where you live but also includes an ethical implication from that awareness. Do you invite those who know the songs of those plants to do a sing for the seeds?

- (2) Accountability: What are your lineage and responsibilities? What social, political, economic, material relationships need to be practiced? How do we make ourselves accountable to the water, the land, the knowledges? Who are the experts in these settings, such as workshops and conferences? Are the Original Peoples recognized or experts there? Is the lineage of the knowledge acknowledged? What is the reciprocal agreement? Are these the people who are compensated for the knowledge that our ancestors kept at all costs? What is your role? Accountable actions include the peoples and communities who are the guardians of this knowledge. Responsible thought and acts are key components of connected knowledge among Indigenous peoples.
- (3) Accessibility and Affordability: If you are charging a fee when sharing traditional ecological and Indigenous knowledge, how are you compensating for the original knowledge that comes from other Original Peoples? Are you providing scholarships? Are you factoring in traditional teachers as consultants and as lead teachers? Are you remembering, perhaps, that they already know something that you just acquired? Are you speaking and presenting information that finds its way back to the Original Peoples? What community are you accountable to? And consider, why are you charging? What gives you the right to, and reasons to, charge a fee? What are the consequences of your actions? How are you sustainable? What exactly are you sustaining?
- (4) Relatedness: Relationships and connectedness to the knowledge are built on values of respect, responsibility, reciprocity, and redistribution of power and accumulation of resources. How related are you to the knowledge, and how are you related? It may not be obvious when you are giving a talk, conducting a workshop, or presenting at a conference, for example, how present are the sacred, unseen aspects of knowing. Those who carry that knowledge may not come forward as people from a larger community unless they have permission from their elders

or peoples or feel comfortable to do so. Should you be the one to speak or step aside? Moreover, who can speak for the natural world from a deep place of relatedness that spans millennia of extended knowing? As Cree elders have conveyed, respect “is a basic law of life” (see Wilson, 2008, p. 58).

- (5) Reciprocity. This approach factors in mutual respect for the plant and animal nations and the natural world, as well as the human world. This is reflected in accords our ancestors developed with all living beings in our particular worlds when we were created as Indigenous peoples. It is expressed as only taking what one needs or not taking without asking permission or making an offering to a plant or animal prior to harvesting. (This includes not taking knowledge without permission.) One way that it may be expressed in TEK draws from Durie’s ideas on expressing reciprocity when interacting with heritage sites (2010) in which the sites are valued in endeavors by interacting with the people of nearby communities, and that such interactions also contribute to Indigenous projects.

All of this reminds me that when you are taking part of a culture, knowing is different from knowledge. Knowing does not come even from 30 years of working with something. There are different dimensions of accumulated knowledge (Cajete, 1994), stories that surround the knowledge, stories that are told in ceremonial time, stories of how you survived based on deep relationships with a system within the natural world originating in deep time. There are certain intangible things, secreted teachings that have provided continuity over time and give form to Native thought. Knowledge is like caliche, a hard bed of accumulated earth. Sometimes medicine is made from poison and takes sacrifice and knowledge of cycles to make it usable and effective for humans. Certain high medicines must be fresh, and these deep levels of traditional medicine cannot be bottled. To make it usable for high medicine requires the utmost care. As I see some of this TEK now becoming general knowledge, as in desert culture or Indigenous birthing, I caution us to remember that the power of this knowledge is because it has been in the community for millennia; it is in families and communities who passed it on through a relationship of love, kinship, and the sacrifice to endure. You cannot pay for kinship; you cannot pay for kinship with the land or the water.

Some Macehual elders in Mexico who are traditional doctors, midwives, and ceremonial leaders say Indigenous knowledge is not traditional knowledge without the presence of elders; that is, only learning from a book is a distal “copy” of Indigenous knowledge (Cazarez Ramirez et al., 2018). The ultimate commitment of our love for our Grandmother Earth and our medicines and our water we see

now being played out in North Dakota by the water defenders and by the Yaquis in Sonora, Mexico, who are defending their water rights from transnational companies and local and regional entities. We have had continuous acts of millions of people throughout the 500 plus years of resistance to colonization, asserting, protesting, and seeking Indigenous rights that have included the protection of our trees, the water, and the land. The consequence has often been, and continues to be, torture, death, and disappearance of those who are the defenders and the guardians of land and life.

Part of the TEK of Indigenous peoples comes from our endurance over time with a particular bio-cultural region. This includes a bio-ceremonial concept of our relationship with the water and the lands through multidirectional thinking embedded in our ceremonial ecologies (Gonzales, 2012). So when I hear of people charging for certain cultural knowledge, I cannot help but think about the teachings carried within the natural world and the medicine of the thorns and how to survive in the desert, how to endure as my great uncles and grandparents did during times of oppressive forces. How to survive with the maguey and *nopal*. Many migrants have survived death in the desert with this Indigenous knowledge. To protect the teachings, the knowledge keepers and guardians, who often earned these deep relations with the natural world through prolonged and accumulated challenges, are very careful about the levels of knowledge that are shared with the public. I urge everyone to pause to think about how long is the relationship you have had—and remember to step back. The elders have instructed: There exists a discrete balance between gaining knowledge to survive and “having rights” to deep knowledge that holds life in your hands. The original caretakers will step forward to be the teachers to the right people with the proper humility or preparedness to receive deeper strains of knowing. It is a form of arrogance to expect to be taught or to be angry when you are not provided access to certain levels of knowledge. Ask yourself what is the story that surrounds your knowledge? What was thought into being, and how?

The Eco-Philosophy in a Lineage

We Emerge and Re-emerge from the Womb of Our Teachings: As a traditional birth keeper and herbalist, these are the teachings that guide my actions. This cosmologic makes sense as it keeps us in relations of responsibility and respect. The cosmos blesses all the waters, all of life, and even bestows greater responsibilities to some of us, as knowledge from all of Creation spirals toward and around us. Among my relatives are people who can speak to the thunderers, cut storms, and bring back water or rain to dry areas. It is a gift from Creator, bestowed as part of the natural order. They are selected by

Creation to gather certain plants and hold ceremonies. This lineage from Creation itself cannot be bought. You cannot buy in a workshop the original relationships with Creation that evolved as we were created as Indigenous peoples. You cannot purchase, or sell, a profound relationship with Natural Law, nor ceremonial time. You cannot purchase the depth of a water ceremony with our "nature relatives." You cannot buy the spirit world. Relatedness based on the "selfie" experts or profit without ethics is not part of natural law. What is in front of your relationships: a prayer or profit? Your protocols with the natural world are misaligned if this is the relational foundation of your ecological knowledge. I share these words on behalf of my spirit being mother, the Maguey, a guardian of the plant world. I am accountable to her because I exist within her womb of knowledge. I sing her some water

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